AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

1-7. Cancelled.

8. (Currently Amended): A stirling engine comprising:~~, characterized in that~~

a high temperature section;

a low temperature section; and

a member connecting the high temperature section and [[a]] the low temperature section, wherein

the member and the high temperature section are formed of different materials and are integrally bonded to each other,

the high temperature section [[being]] is formed into an integral structure by means of a heat resistant/high heat conductive material having high heat resistance property and high heat conductivity, and

the member ~~connecting the high temperature section and the low temperature section being made up of a member which~~ is formed of a heat resistant/low heat conductive material having low heat conductivity and contacts [[with]] a flow of working gas~~, and being formed of a heat resistant/low heat conductive material having low heat conductivity~~.

9. (Previously Presented): The stirling engine according to claim 8, characterized in that the heat resistant/high heat conductive material for forming the high temperature section is a

ceramics selected from silicon carbide ceramics, silicon nitride ceramics, aluminum nitride ceramics, or alumina ceramics, or a functionally gradient material of the ceramics and metal.

10. (Previously Presented): The stirling engine according to claim 8, characterized in that the heat resistant/low heat conductive material for forming the member connecting the high temperature section and the low temperature section is a ceramics selected from silicon oxide, cordierite, mica, aluminum titanate, or quartz ceramics, or a functionally gradient material of the ceramics and metal.

11. (Previously Presented): The stirling engine according to claim 8, wherein the stirling engine is a β type stirling engine in which a displacer piston and a power piston are disposed in the same cylinder.

12. (Previously Presented): The stirling engine according to claim 8, characterized in that the stirling engine is a γ type stirling engine in which a displacer piston and a power piston are disposed independently in different cylinders.

13. (Previously Presented): The Stirling engine according to claim 8, characterized in that the stirling engine is an α type Stirling engine having two independent pistons, which are, an expansion piston disposed in an expansion cylinder and a compression piston disposed in a compression cylinder.

14. (Currently Amended): A stirling engine~~, characterized in that~~ comprising:

a high temperature section;

a low temperature section; and

a member connecting the high temperature section and [[a]] the low temperature section,

wherein

the member and the high temperature section are formed of different materials and are integrally bonded to each other, and

the high temperature section [[being]] is formed by integrally molding an expansion space head portion and a high-temperature side heat exchanger main body with the same heat resistant/high heat conductive material having high heat resistance property and high heat conductivity.

15. (Previously Presented): The stirling engine according to claim 14, characterized in that the heat resistant/high heat conductive material for forming the high temperature section is a ceramics selected from silicon carbide ceramics, silicon nitride ceramics, aluminum nitride ceramics, or alumina ceramics, or a functionally gradient material of the ceramics and metal.

16. (Previously Presented): The stirling engine according to claim 14, characterized in that the member connecting the high temperature section and the low temperature section is formed of a heat resistant/low heat conductive material having low heat conductivity.

17. (Previously Presented): The stirling engine according to claim 16, characterized in that the heat resistant/low heat conductive material for forming the member connecting the high temperature section and the low temperature section is a ceramics selected from silicon oxide, cordierite, mica, aluminum titanate, or quartz ceramics, or a functionally gradient material of the ceramics and metal.

18. (Previously Presented): The stirling engine according to claim 14, wherein the stirling engine is a β type stirling engine in which a displacer piston and a power piston are disposed in the same cylinder

19. (Previously Presented): The Stirling engine according to claim 14, characterized in that the stirling engine is a γ type stirling engine in which a displacer piston and a power piston are disposed independently in different cylinders.

20. (Previously Presented): The Stirling engine according to claim 14, characterized in that the stirling engine is an α type Stirling engine having two independent pistons, which are, an expansion piston disposed in an expansion cylinder and a compression piston disposed in a compression cylinder.